

NOTES ON GEOGRAPHIC DISTRIBUTION

New distribution and host records of Chalcidoidea (Insecta: Hymenoptera) from various parts of India

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New distribution and host records of 14 species from five families of the superfamily Chalcidoidea from various parts of southern and western India are presented below, based on the studies carried out at Project Directorate of Biological Control (PDBC), Bangalore. The specimens are deposited in the collections of PDBC which is a designated National Repository under the National Biodiversity Authority.

Ooencyrtus musa is reported for the first time from lepidopterous eggs on *Cassia auriculata*, *Pachyneuron groenlandicum* from indet. hemerobiid on *Chromolaena odorata* and *Pachyneuron solitarium* from *Lipaphis erysimi*. From Andhra Pradesh, *Anagyrus chrysos*, *Blepyrus insularis*, *Homalotylus indicus* and *Oricoruna arcotensis* are recorded. From Karnataka, *Metaphycus bolangerae*, *Prochiloneurus aegyptiacus*, *Neanastatus trochantericus*, *Mymar taprobanicum*, *Mangostigmus amraeus* and *Megastigmus viggianii* are recorded. From Maharashtra, *Pachyneuron solitarium* and from Tamil Nadu, *Sphegigaster brunneicornis* are recorded. The present study deals with six species of Encyrtidae, four species of Pteromalidae, two species of Torymidae and one species each of Mymaridae and Eupelmidae.

The study area comprises the states Andhra Pradesh, Karnataka, Tamil Nadu and Maharashtra. The annual mean temperature in these regions is between 16-28 °C. The studies were carried out using S8APO stereozoom microscope and identification was done with the aid of recent literature as well as data obtained from Universal Chalcidoidea database (Noyes 2007). Specimen collection was done by using sweep-net, aspirator,

and yellow pan traps set up in the collection sites. Along with this various mealybugs infested plant parts, parasitized eggs on pods, parasitized pupae, scale infested leaves, leaves with galls were also collected and kept in jars for emergence of parasitoids. The collected specimens were then dry mounted and labelled according to the standard procedure (Noyes 1982). Collection site, date, host and collector's name and other details are provided in the subhead for each species.

Family Encyrtidae

1. *Anagyrus chrysos*

Anagyrus chrysos Noyes & Hayat, 1994: 80, 176-178, F, M. Holotype F: India, Lucknow.

Material studied: 7F, 5M, Andhra Pradesh, Guntur, ex. indet. mealybugs on cotton, 02 December 2007, Naveen.

Distribution: India: Andhra Pradesh (New record), Bihar, Karnataka, Madhya Pradesh, Maharashtra, Tamil Nadu and Uttar Pradesh; Malaysia.

2. *Blepyrus insularis*

Encyrtus? insularis Cameron, in Blackburn & Cameron, 1886: 243-245, M. Holotype F: Hawaii (Type lost).

Blepyrus insularis (Cameron): Timberlake, 1922: 167.

Blepyrus longiscapus Kaul & Agarwal, 1986: 50. Lectotype F: India, Pantnagar. Synonymy by Hayat, 1999: 360.

Blepyrus annulobliquus Kaul & Agarwal, 1986: 13, 50-52. Holotype F: India, Madhya Pradesh.

Material studied: 1F, Andhra Pradesh: Rajamundry, ex. indet. mealybugs on bean, 30 November 2007, Lalitha.

Distribution: India: Andhra Pradesh (new record), Delhi, Karnataka, Kerala, Goa, Madhya Pradesh,

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Maharashtra, Orissa, Tamil Nadu, Uttaranchal, Uttar Pradesh and West Bengal; Sri Lanka; Malaysia.

3. *Homalotylus indicus* (Figure 1)

Neoaenasioidea indica Agarwal, 1966: 73-74, F, M. Holotype F: India, Aligarh.

Prochiloneurus nipaecocci Subba Rao, 1967: 1, F. Holotype F: India, Delhi. Synonymy by Anis & Hayat, 1998: 208.

Homalotylus indicus (Agarwal): Hayat, Alam & Agarwal, 1975: 65, 67, F, M. India, Aligarh & Shoranur.

Echthroplexis shafii Fatima & Agarwal, 1994: 281, F. Holotype F: India, Aligarh. Synonymy by Anis & Hayat, 1998: 208.

Material studied: 1F, 1M, Andhra Pradesh: Guntur, ex. indet. mealybugs on cotton, 02 December 2007, Ankita.

Distribution: Andhra Pradesh (New record), Delhi, Kerala, Rajasthan, Uttar Pradesh and Tamil Nadu.



Figure 1: *Homalotylus indicus*

4. *Metaphycus bolangerae*

Metaphycus bolangerae Hayat, in Hayat *et al.*, 2003: 313-314, F, M. Holotype F: India, Bangalore.

Material studied: 2F, Karnataka: Bangalore, ex. *Saissetia* sp., 14 October 2007, Ankita.

Distribution: India: Karnataka (New host record on *Saissetia* sp.). It was recorded earlier from *Ceroplastes actiniformis* (Homoptera: Coccidae) on sandalwood.

5. *Ooencyrtus musa*

Ooencyrtus musa Huang & Noyes, 1994: 15, 77-78, Holotype F: India, Karnataka, Bannerghatta.

Material studied: 2F, 1M, Karnataka, ex. indet. lepidopterous eggs on *Cassia auriculata*, 20 October 2007, Ankita.

Host: For the first time this species is recorded from any known host *viz.* indet. lepidopterous eggs on *Cassia auriculata*.

Distribution: India: Karnataka.

6. *Prochiloneurus aegyptiacus* (Mercet)

Achrysopophagus aegyptiacus Mercet, 1929: 5, 360.

Prochiloneurus aegyptiacus (Mercet): Niyazov, 1968: 899.

Prochiloneurus valparianus Mani & Kaul, 1974: 66-68, F. Holotype F: India, Anamalai Hills. Synonymy by Fatima & Shafee, 1994: 24.

Prochiloneurus indicus Shafee, Alam & Agarwal, 1975: 49-50, F, M. Holotype F: India, Coimbatore. Synonymy by Fatima & Shafee, 1994: 24.

Material studied: 1F, Karnataka: Hessarghatta, ex. indet. mealy bugs on pomelo, 18 July 2007, Ankita.

Distribution: India: Karnataka (new record), Kerala, Tamil Nadu and Andhra Pradesh.

Family Eupelmidae

7. *Neanastatus trochantericus*

Neanastatus trochantericus Gahan, 1919: 56, 520. F, India, Tamil Nadu.

Neanastatus trochantericus Gahan: Narendran, 1996: 81.

Material studied: 1M, Karnataka: Hessarghatta, sweeping on grasses, 19 September 2007, Ankita.

Distribution: India: Karnataka (new record) and Tamil Nadu.

Family Mymaridae

8. *Mymar taprobanicum*

Mymar taprobanicum Ward, 1875: 11, 197. F, Srilanka.

Mymar tyndalli Girault, 1912: 1, 168. Holotype F, Australia, Queensland.

Mymar antillanum Dozier, 1937: 21, 130. Puerto Rico.

Mymar indica Mani, 1942: 4, 160. India.

Oglobliniella aegyptiaca Soyka, 1950: 34, 131. Egypt.

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Material studied: 1F on slide, Karnataka: Bangalore, yellow pan trap, 05 December 2007, Ankita.

Distribution: India: Karnataka (new record), Delhi, Madhya Pradesh and Rajasthan.

Family Pteromalidae

9. *Oricoruna arcotensis*

Pachycrepoides arcotensis Mani & Kurian, 1953: 15, 11. F, India, N. Arcot. (Lost).

Pachycrepoides coorgensis Mani & Kurian, 1953: 15, 10. M, F, India, Bangalore (lost).

Material studied: 1F, Andhra Pradesh: Tirupathi vet. College, Resting on bamboo leaf, 16 January 2007, Ankita.

Distribution: Andhra Pradesh (new record), Bihar, Jharkhand, Karnataka and Tamil Nadu.

10. *Pachyneuron groenlandicum*

Pteromalus groenlandicus Holmgren, 1872: 29, 100, M, F. Lectotype F: Greenland.

Pachyneuron karnalensis Mani, 1939: 1, 85. F, India, Karnal.

Pachyneuron umbratum Delucchi, 1955: 38, 132-133. F, Switzerland.

Pachyneuron bakrotu, Mani & Saraswat, 1974: 3, 102. F, India, Dalhousie.

Host: Hemerobiidae is a new host record for this species. Earlier records were from *Ischiodon* sp. on *Cassia* sp. and syrphids associated with *Brachycaudus* sp.

Material studied: 1F; Karnataka: Bangalore, ex. Indet. Hemerobiid on *Chromolaena odorata*, 15 September 2006, Ankita.

Distribution: India: Delhi, Haryana, Himachal Pradesh, Kerala, Karnataka, Orissa, Tamil Nadu, Jammu & Kashmir; Europe.

11. *Pachyneuron solitarium*

Pachyneuron coccorum Linneaus, 1758. Syst. Nat. 10th Ed.

Pachyneuron solitarius Hartig, 1838: 1, 250. Lectotype F: Germany.

Material studied: 1F, Maharashtra: Akola, ex. *Lipaphis erysimi* Kalt, 23 January 2006, Joshi.

Host: This species has a wide range of hosts, hyperparasitising aphids, coccids, etc. but no host data was available from India. For the first time it is recorded from *Lipaphis erysimi* in India.

Distribution: India: Maharashtra (new record) and Kerala; Japan; Europe.

12. *Sphegigaster brunneicornis*

Trigonogastra brunneicornis Ferrière, 1930: 21, 356-357. Lectotype F: Sri Lanka, Peradeniya.

Material studied: 1F, Tamil Nadu, ex. Pupae of stem fly, 10 October 2007, Tamil Nadu Agricultural University collection.

Distribution: India: Tamil Nadu (new record) and Kerala; Sri Lanka.

Family Torymidae

13. *Mangostigmus amraeus*

Neomegastigmus amraeus Chandy Kurian, 1953: 2, 241. Holotype F: India.

Mangostigmus amraeus (Chandy Kurian): Boucek, 1986.

Mangostigmus amraeus (Chandy Kurian): Narendran, 1994: 32-33.

Material studied: 6F, 1M, Karnataka: Thalaghapatra, ex. Galls on *Mangifera indica*, Ankita.

Distribution: India: Karnataka (new record), Uttar Pradesh; Malaysia; Thailand.

14. *Megastigmus viggianii* (Figure 2)

Megastigmus viggianii Narendran & Sureshan, 1988: 45, 38-41, M, F. Holotype F: India.

Megastigmus viggianii Narendran & Sureshan: Narendran, 1994: 29-30.



Figure 2: *Megastigmus viggianii*

Material studied: 2F, 2M, Karnataka: Yana, ex. Leaf galls on indet tree, 05 November 2007, Ankita. 5F, Karnataka: Hessarghatta, ex. Leaf

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galls on *Eucalyptus* sp. infested with *Leptocybe invasa* Fisher and La Salle, 09 June 2008, Ankita. Distribution: Karnataka (new record) and Kerala.

Metaphycus bolangerae is reported from *Saissetia* sp. which is a new host record. Earlier record was from *Ceroplastes actiniformis* (Homoptera: Coccidae) on sandalwood. The host of *Ooencyrtus musa*, which is endemic to Karnataka, was not known. For the first time, this species has been found parasitizing lepidopterous eggs on *Cassia auriculata*. The known host range of *Pachyneuron groenlandicum* includes dipterans, viz., *Ischiodon* sp. on *Cassia* sp. and syrphids associated with *Brachycaudus* sp. We

recorded it from an indeterminate hemerobiid (Neuroptera) on *Chromolaena odorata*. This species occurs throughout the country. *Pachyneuron solitarium* was found to be associated with various aphids and coccids from various parts of the world, but for the first time it is recorded from *Lipaphis erysimi* in India. This species was prevalent in south India but our study reports that its range extends to western India also. *Mangostigmus amraeus* prevalent in North India has been found to exist in south India also. *Megastigmus viggianii* was found to be associated with eucalyptus galls infested by the gall wasp, *Leptocybe invasa* for the first time.

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